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(72) Inventor: **Do, Joo-Hyun**
Seoul (KR)

(74) Representative: **Robinson, Ian Michael et al**
Appleyard Lees
15 Clare Road
Halifax HX1 2HY (GB)

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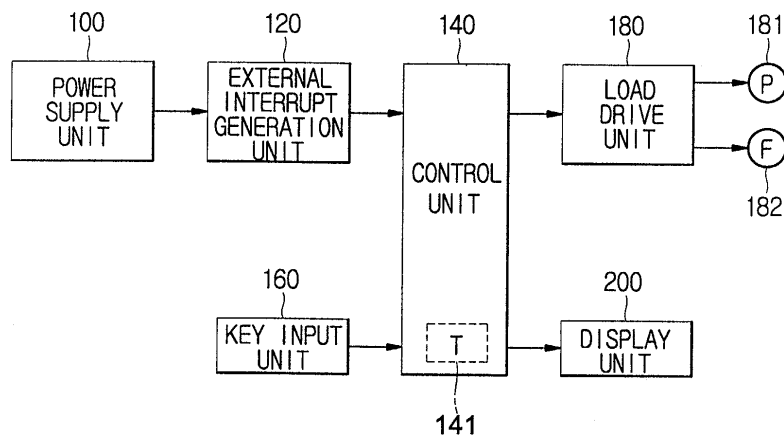
(71) Applicant: **Samsung Electronics Co., Ltd.**
Suwon-si, Gyeonggi-do, 443-742 (KR)

(54) **Microwave oven and method of controlling the same upon recognizing power supply frequency**

(57) A microwave oven and a method of controlling the microwave oven recognize a power supply frequency correctly at a time power is supplied by eliminating the influence of noise. A blocking period is set in which generation of interrupts is deferred until a timer count reaches

a predetermined set value, and interrupts are generated if the blocking period elapses. Accordingly, the microwave oven and method of the controlling the microwave oven recognize a power supply frequency without the influence of noise at the time of the power supply, thereby improving reliability of the microwave oven.

FIG. 4





EUROPEAN SEARCH REPORT

Application Number
EP 03 25 1099

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X,P	JP 2002 323222 A (TOSHIBA CORP) 8 November 2002 (2002-11-08) * paragraph [0003]; figures 1,4 * -----	1	INV. H05B6/66 H05B6/68
			TECHNICAL FIELDS SEARCHED (IPC)
			H05B G01R
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		15 August 2012	Taccoen, J
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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Application Number

EP 03 25 1099

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-6, 14

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

Application Number

EP 03 25 1099

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-6, 14

a microwave oven comprising a power supply unit, a cooking unit supplying microwave for use in cooking items disposed in the microwave oven,;
an interrupt generation unit (120) generating interrupts corresponding to a power supply frequency of the power supply unit (100); and
a control unit (140) setting a blocking period to block generation of the interrupts, recognizing a power supply frequency on a basis of the interrupts generated by the interrupt generation unit (120) when the blocking period elapses, and controlling the cooking unit (180) to cook the items disposed in the microwave oven.

2. claims: 7-9, 15

A method of controlling a microwave oven, the microwave oven setting a power supply frequency at a time power is supplied, comprising:
setting a blocking period to block generation of interrupts by the power supply frequency;
increasing a timer count using an inner timer (141);
determining whether the blocking period has elapsed by comparing the timer count with a predetermined set value;
generating interrupts corresponding to the power supply frequency if the blocking period has elapsed; and
determining the power supply frequency in accordance with the interrupts generated.

3. claims: 10-12, 15

A method of controlling a microwave oven, the microwave oven setting a power supply frequency at a time power is supplied, comprising:
setting a first period for which measurement of the power supply frequency is deferred and a second period for which the measurement of the power supply frequency is carried out;
setting a blocking period in which generation of interrupts is blocked for each cycle of a power supply signal in accordance with the power supply frequency in one of the first period or the second period of the power supply signal; and
cooking using the power supply frequency set using the measurement.

4. claim: 13



LACK OF UNITY OF INVENTION
SHEET B

Application Number

EP 03 25 1099

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

A computer-readable medium having instructions stored thereon for causing a computer/control unit to perform a method of controlling a microwave oven, comprising:
utilizing, upon connection to a power supply, an interrupt generation unit (120) to generate interrupts corresponding to a power supply frequency of the power supply unit (100);
and
utilizing a control unit (140) to set up a blocking period to block generation of the interrupts, to recognize a power supply frequency on a basis of the interrupts when the blocking period elapses, and controlling a cooking unit (180) supply microwaves to cook items disposed in the microwave oven using the recognized power supply frequency.

5. claims: 16-22

A microwave oven comprising:
a blocking period-based control unit (140) setting a power supply frequency at a time power is supplied by setting a first period for which measurement of the power supply frequency is deferred and a second period for which the measurement of the power supply frequency is carried out;
and
a cooking unit (180) to cook using the power supply frequency set using the measurement.

6. claims: 23-28

A microwave oven comprising:
a high-frequency noise-eliminating control unit (140) that disables extraneous interrupts to select a power supply frequency when power is supplied; and
a cooking unit (180) to cook using the power supply frequency selected.

15-08-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2002323222 A	08-11-2002	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82